WHAT IS CLAIMED IS:

1. A transceiver of a communication system, comprising:

a front-end receiver for generating a first signal with a pre-cursor component and a post-cursor component according to a receiving signal, wherein the front-end receiver further includes an inverse partial response (IPR) filter to compensate an ISI introduced by a partial response filter in a transmitter part of a remote transceiver and an analog-to digital (A/D) converter to receive the output signal of the IPR filter and convert to the first signal with a digital format;

a noise canceller coupled to the front-end receiver for generating a second signal through eliminating the noise of the first signal;

a Feed-Forward Equalizer (FFE) coupled to the noise canceller for generating a third signal through eliminating the pre-cursor component in the second signal according to a transfer function including a plurality of adjustable constants, wherein the adjustable constants includes a main-tap and the value of the main-tap is predetermined; and

a decoder coupled to the FFE for decoding the third signal and eliminating the post-cursor component in the third signal.

2. The transceiver as claimed in claim 1, wherein the front-end receiver further includes a sample-and-hold circuit to sample and hold the receiving signal.

3. The transceiver as claimed in claim 2, wherein the transceiver further includes a timing recovery coupled to the decoder for controlling the sample-and-hold circuit according to the output signal of the decoder.

4. A front-end receiver of the communication system, comprising:

a sample and hold (S/H) circuit for sampling and holding a receiving signal;

an inverse partial response (IPR) filter coupled to the S/H circuit for generating a filtered receiving signal according to the sample-and-hold receiving signal through compensating an ISI introduced by a partial response filter in a transmitter part of a remote transceiver; and

an analog-to-digital converter (ADC) for generating a digital-form signal according to the filtered receiving signal.

5. The receiver as claimed in claim 4, wherein the IPR filter is an infinite impulse response filter.

6. The receiver as claimed in claim 5, further comprising

a low pass filter (LPF) for filtering high frequency part of the receiving signal.

7. The receiver as claimed in claim 6, further comprising

an analog auto-gain controller (AAGC), for adjusting the magnitude of the receiving signal to meet the operating range requirement of the LPF.